

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-5. (canceled)

6. (currently amended) A method for emulating VGA hardware for a guest operating environment in a host operating environment for a computer system, wherein the guest operating environment is operable to send instructions to the VGA hardware, wherein the VGA hardware is configured under a current VGA mode, and is operable to be configured in one of a possible plurality of VGA modes, wherein the current VGA mode is associated with a set of current mode flags, and wherein the computer system comprises a memory, comprising the steps of:

receiving an instruction issued from the guest operating system and directed to the VGA hardware, wherein the instruction is directed to change the current VGA mode to a new VGA mode;

generating a set of new VGA mode flags associated with the new VGA mode; and

comparing the current VGA mode flags to the new VGA mode flags;

providing a jump table, wherein the jump table comprises one or more jump table entries operable for pointing to one or more addresses in memory, wherein the jump table entries are associated with a specific VGA mode, and each jump table entry is associated with a specific instruction in the set of permissible instructions for the specific VGA mode, and wherein the jump table contains the current VGA mode flags; and

providing a mode table, wherein the mode table comprises one or more mode table entries, wherein each mode table entry is associated with a specific VGA mode and is operable for pointing to one or more addresses in memory.

7-9. (canceled)

10. (currently amended) The method of claim 9 6, wherein each mode table entry is associated with a set of mode flags associated with the specific VGA mode.

11. (original) The method of claim 10, further comprising the steps of:
determining that there is a significant difference between the current VGA mode flags and the new VGA mode flags, after the step of comparing the current VGA mode flags to the new VGA mode flags; and

changing the jump table entries to entries that are operable to pointing to a memory address corresponding to a search function, wherein the search function is operable to compare the mode flags associated with each mode table entry to the new VGA mode flags.

12. (original) The method of claim 10, further comprising the steps of:
determining that there is a significant difference between the current VGA mode flags and the new VGA mode flags, after the step of comparing the current VGA mode flags to the new VGA mode flags; and

comparing the new VGA mode flags to the mode flags associated with each mode table entry.

13. (original) The method of claim 12, further comprising the steps of:
- finding mode flags associated with a mode table entry that match the new VGA mode flags after the step of comparing the new VGA mode flags to the mode flags associated with each mode table entry; and
- copying the matching mode table entry to the jump table entries such that the jump table entries are operable to point to the same addresses in memory as the mode table entry.
14. (original) The method of claim 13, further comprising the step of changing the current VGA mode flags contained in the jump table to the new VGA mode flags.
15. (original) The method of claim 12, further comprising the steps of:
- determining that none of the mode flags associated with the mode table entries match the new VGA mode flags;
- setting of the jump table entries such that the jump table entries are each operable to point to the address corresponding to a function generator, wherein the function generator is operable to create a function, wherein the function is operable to allow the host operating system to execute the instruction.
16. (original) The method of claim 15, further comprising the step of changing the current VGA mode flags contained in the jump table to the new VGA mode flags.
17. (new) A method for emulating VGA hardware for a guest operating environment in a host operating environment for a computer system, wherein the guest operating environment is operable to send instructions to the VGA hardware, wherein the VGA hardware is configured under a current VGA mode, and is operable to be configured in

one of a possible plurality of VGA modes, wherein the current VGA mode is associated with a set of current mode flags, and wherein the computer system comprises a memory, comprising the steps of:

receiving an instruction issued from the guest operating system and directed to the VGA hardware, wherein the instruction is directed to change the current VGA mode to a new VGA mode;

generating a set of new VGA mode flags associated with the new VGA mode;

comparing the current VGA mode flags to the new VGA mode flags;

providing a jump table, wherein the jump table comprises one or more jump table entries operable for pointing to one or more addresses in memory, wherein the jump table entries are associated with a specific VGA mode, and each jump table entry is associated with a specific instruction in the set of permissible instructions for the specific VGA mode, and wherein the jump table contains the current VGA mode flags;

determining that there is no significant difference between the current VGA mode flags and the new VGA mode flags, after the step of comparing the current VGA mode flags to the new VGA mode flags; and

maintaining the jump table entries.

18. (new) A computer-readable medium comprising computer-readable instructions for emulating VGA hardware for a guest operating environment in a host operating environment for a computer system, wherein the guest operating environment is operable to send instructions to the VGA hardware, wherein the VGA hardware is configured under a current VGA mode, and is operable to be configured in one of a possible plurality of

VGA modes, wherein the current VGA mode is associated with a set of current mode flags, and wherein the computer system comprises a memory, said computer-readable instructions comprising instructions for:

receiving an instruction issued from the guest operating system and directed to the VGA hardware, wherein the instruction is directed to change the current VGA mode to a new VGA mode;

generating a set of new VGA mode flags associated with the new VGA mode;

comparing the current VGA mode flags to the new VGA mode flags;

providing a jump table, wherein the jump table comprises one or more jump table entries operable for pointing to one or more addresses in memory, wherein the jump table entries are associated with a specific VGA mode, and each jump table entry is associated with a specific instruction in the set of permissible instructions for the specific VGA mode, and wherein the jump table contains the current VGA mode flags; and

providing a mode table, wherein the mode table comprises one or more mode table entries, wherein each mode table entry is associated with a specific VGA mode and is operable for pointing to one or more addresses in memory.

19. (new) The computer-readable medium of claim 18 further comprising instructions whereby each mode table entry is associated with a set of mode flags associated with the specific VGA mode.

20. (new) The computer-readable medium of claim 19, further comprising instructions for:

determining that there is a significant difference between the current VGA mode flags and the new VGA mode flags, after the step of comparing the current VGA mode flags to the new VGA mode flags; and

changing the jump table entries to entries that are operable to pointing to a memory address corresponding to a search function, wherein the search function is operable to compare the mode flags associated with each mode table entry to the new VGA mode flags.

21. (new) The computer-readable medium of claim 19, further comprising instructions for:

determining that there is a significant difference between the current VGA mode flags and the new VGA mode flags, after the step of comparing the current VGA mode flags to the new VGA mode flags; and

comparing the new VGA mode flags to the mode flags associated with each mode table entry.

22. (new) The computer-readable medium of claim 21, further comprising instructions for:

finding mode flags associated with a mode table entry that match the new VGA mode flags after the step of comparing the new VGA mode flags to the mode flags associated with each mode table entry; and

copying the matching mode table entry to the jump table entries such that the jump table entries are operable to point to the same addresses in memory as the mode table entry.

23. (new) The computer-readable medium of claim 22, further comprising instructions for changing the current VGA mode flags contained in the jump table to the new VGA mode flags.

24. (new) The computer-readable medium of claim 21, further comprising instructions for:

determining that none of the mode flags associated with the mode table entries match the new VGA mode flags;

setting of the jump table entries such that the jump table entries are each operable to point to the address corresponding to a function generator, wherein the function generator is operable to create a function, wherein the function is operable to allow the host operating system to execute the instruction.

25. (new) The computer-readable medium of claim 24, further comprising instructions for changing the current VGA mode flags contained in the jump table to the new VGA mode flags.

26. (new) A computer-readable medium comprising computer-readable instructions for implementing the method of claim 17.

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